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Employer Assessment of Competencies and Satisfaction with Industrial Engineering Alumni of Foundation University

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Index Terms:

industrial engineering, employer satisfaction, graduate competencies, employability, data and digital competence, communication skills, reliability, work ethics

Abstract. This study evaluated the competencies of Industrial Engineering alumni of Foundation University as perceived by employers and examined their relationship with employer satisfaction. It focused on key domains, including technical skills, soft skills, work readiness and professional competence, communication skills, data and digital competence, and professional attitude and behavior. A quantitative descriptive-correlational research design was employed, with data collected from employer-respondents across various industries using a structured questionnaire. The data were analyzed using descriptive statistics and Spearman rank correlation to determine both the level of competencies and their relationship with employer satisfaction. Results revealed that all competencies were rated at a very high level, indicating that graduates are well-prepared to meet workplace demands. Employer satisfaction was also rated very high, reflecting strong overall performance and alignment with current industry expectations. Significant positive relationships were identified between employer satisfaction and selected competencies, particularly communication skills, reliability, work ethics, data and digital competence, and technical skills. These competencies were found to strongly influence employer perceptions of graduate effectiveness in actual workplace settings. On the other hand, other competencies did not show significant relationships, suggesting that these are consistently demonstrated and regarded as baseline expectations that graduates are assumed to possess upon entry into the workforce. The findings confirm that the Bachelor of Science in Industrial Engineering (BSIE) program effectively develops competent and industry-ready graduates. However, continuous curriculum enhancement is recommended, particularly in strengthening high-impact competencies, expanding industry-based learning, and integrating emerging technologies, to sustain alignment with evolving workforce demands and maintain graduate competitiveness.

Introduction

Employer satisfaction plays a critical role in enhancing organizational productivity and performance. When employees experience supportive work environments, they are more likely to demonstrate motivation, commitment, and productivity, which contribute to overall organizational success (Inayat & Khan, 2021). However, satisfaction is influenced not only by workplace conditions but also by the competencies and preparedness of individuals entering the workforce.

Across global industries, a persistent mismatch remains between the competencies of engineering graduates and the evolving expectations of employers. While technical proficiency is essential, increasing emphasis is placed on soft skills such as communication, critical thinking, teamwork, adaptability, and problem-solving in complex work environments (Zahid et al., 2025). Rapid technological advancement, digital transformation, and global competition have further intensified the demand for professionals who can integrate technical expertise with interdisciplinary collaboration and strategic decision-making. Despite these expectations, studies continue to report gaps in higher-order thinking skills and

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workplace readiness, suggesting that existing academic programs may not fully align with industry needs (Kittiyankajon, 2020).

Research also indicates that although engineering graduates are generally employable, employers often identify deficiencies in critical thinking, communication, and job-specific competencies (Erkir & Kayapınar, 2025). These findings highlight a disparity between academic preparation and industry requirements, particularly in application of theoretical knowledge to practical contexts and the development of essential interpersonal skills. In some cases, graduates from certain engineering disciplines are widely employed, yet their competency levels may be perceived as lower than those of peers from other specializations. Additionally, some engineering roles continue to be difficult to fill due to limited practical experience and insufficient technical proficiency (Hakim et al., 2026).

Despite these insights, many existing studies treat engineering fields as a homogeneous group or focus primarily on employment outcomes rather than detailed assessments of employer satisfaction linked to specific curriculum components (Lagrimas et al., 2025). Research often relies on descriptive tracer approaches that evaluate general employability and performance but provide limited guidance for targeted curriculum improvement (Laguador et al., 2020). Furthermore, there is a lack of focused investigation into specific engineering programs within localized institutional contexts, which may limit the effectiveness of curriculum development efforts.

Accordingly, this study addresses these gaps by assessing employer satisfaction with engineering alumni within a specific institutional context as a basis for curriculum enhancement. By aligning academic programs with industry expectations and workforce demands, the study contributes to the development of relevant skills for employment and supports broader goals related to quality education and sustainable economic growth.

Statement of the Problem

1. As evaluated by employers, to what extent do Industrial Engineering graduates from a higher education institution demonstrate the following competencies:
    1.1 human capital
        1.1.1 technical skills,
        1.1.2 soft skills,
        1.1.3 work readiness and professional competence,
        1.1.3.1 productivity;
        1.1.3.2 quality of work;
        1.1.3.3 reliability; and
        1.1.3.4 ability to meet organizational objectives
    1.2 graduates' employability
        1.2.1 problem-solving and adaptability;
        1.2.2 communication skills;
        1.2.3 data and digital competence; and
        1.2.4 professional attitude and behavior
            1.2.4.1 work ethics
2. What is the level of satisfaction of the employers in the performance of the Industrial Engineering alumni?
3. Is there a significant relationship between the level of competencies of Industrial Engineering alumni and the level of satisfaction of the employers?

Methodology

Research Design

This study utilized a descriptive–correlational research design. A structured questionnaire served as the primary instrument for data collection, consisting of a Likert-scale survey that measured employer satisfaction and the level of competencies demonstrated by BS Industrial Engineering alumni. The study was descriptive because it aimed to describe and assess the current level of employer satisfaction and the extent to which graduates demonstrated competencies such as technical skills, communication skills, work readiness, and professional behavior in the workplace. It sought to present a clear picture of how employers evaluated the performance of Industrial Engineering graduates.

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The study was correlational because it examined whether there was a significant relationship between the competencies of the graduates and the level of employer satisfaction. Through statistical analysis, the study determined if variations in graduate competencies were associated with variations in employer satisfaction.

Research Environment

This study was conducted in workplace settings within Negros Oriental where Industrial Engineering (IE) alumni from a higher education institution were currently employed. The research environment encompassed various industries and organizations in the province, including manufacturing, services, logistics, construction, government, and other related sectors that had engaged the services of these IE graduates. These workplaces served as the primary sources of employer evaluations regarding graduate competencies, job performance, and priority areas for curriculum improvement.

Research Respondents

The respondents of this study were employers, immediate supervisors, or department heads who directly supervised and evaluated the work performance of Industrial Engineering (IE) alumni from a higher education institution. These respondents were drawn from organizations within Negros Oriental and from areas outside the province, representing various sectors such as manufacturing, suppliers, government, and related fields. To ensure reliable evaluations, the alumni assessed had at least two (2) years of work experience, providing employers with sufficient time to observe their competencies and job performance. The study utilized a total of 32 respondents, which is considered adequate for quantitative research.

Research Instruments

This study utilized a researcher-made questionnaire as the primary instrument for data collection. The instrument, the Employer Satisfaction and Competency Assessment Form, was designed to measure the extent to which Industrial Engineering graduates from a higher education institution demonstrate key competencies and job performance dimensions in their respective workplaces. The questionnaire was administered to employers, immediate supervisors, or department heads to determine the extent to which these Industrial Engineering alumni demonstrate the required competencies and job performance standards in the workplace within Negros Oriental and other relevant areas. The instrument covered competency dimensions such as technical and analytical skills, work readiness and professional competence, problem-solving and adaptability, data and digital competence, and professional attitude and behavior. It also included job performance dimensions such as productivity, quality of work, reliability, and the ability to meet organizational objectives.

Ethical Considerations

This study strictly adhered to ethical research standards to protect participants' rights and maintain research integrity. Prior to data collection, respondents were informed of the study's purpose, and informed consent was obtained, emphasizing voluntary participation and the right to withdraw within three weeks without consequences. During data collection, confidentiality and anonymity were ensured, with no personal or organizational identifiers required, and responses focused only on professional competencies and employer satisfaction. After data collection, all data were securely stored, used solely for academic purposes, and reported in aggregate form to prevent identification. Findings were presented honestly and without manipulation, following institutional guidelines. The researcher also declares that generative AI tools were used only to enhance clarity and readability, with all content reviewed and validated, and full responsibility assumed by the researcher.

Research Procedure

This study focused on key competency areas of Industrial Engineering graduates, including technical skills, soft skills, work readiness, professional behavior, problem-solving, communication, data and digital competence, and quality of work, as inputs to assess employer satisfaction. A descriptive survey method was employed through the development and administration of structured questionnaires to employers supervising Industrial Engineering alumni within Negros Oriental. The researchers coordinated with respondents, explained the purpose of the study, and ensured voluntary participation and confidentiality during data collection. Completed questionnaires were gathered, checked for completeness, and encoded for analysis. The data were then processed using descriptive statistics to determine competency levels and employer satisfaction, and correlational analysis to examine their relationship. Based on the findings, recommendations were formulated to improve the curriculum, strengthen graduate competencies, and enhance alignment with industry needs to improve employer satisfaction.

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Statistical Treatment of the Data

Data were analyzed using appropriate statistical tools for Likert-scale (ordinal) data.

- Frequency and Percentage: Used to summarize the distribution of responses for each survey item.
- Mean: Used to determine the level of employer satisfaction and the extent of competencies demonstrated by Industrial Engineering alumni.
- Shapiro–Wilk Test: Used to assess the normality of the data.
- Spearman Rank Correlation (rho): Used to determine the strength and direction of the relationship between employer satisfaction and alumni competencies.

The following interpretations were used:

Extent of Competency Scale:

Mean Range	Interpretation	Meaning
4.21 – 5.00	Very High (VH)	Consistently demonstrated
3.41 – 4.20	High (H)	Demonstrated in most situations
2.61 – 3.40	Moderate (M)	Demonstrated in some situations
1.81 – 2.60	Low (L)	Demonstrated in limited situations
1.00 – 1.80	Very Low (VL)	Not demonstrated

Level of Employer Satisfaction Scale:

Mean Range	Interpretation	Meaning
4.21 – 5.00	Very Satisfied (VS)	Extremely satisfied in most situations
3.41 – 4.20	Satisfied (S)	Satisfied in most situations
2.61 – 3.40	Moderately Satisfied (MS)	Satisfied in some situations
1.81 – 2.60	Slightly Satisfied (SS)	Satisfied in limited situations
1.00 – 1.80	Not Satisfied (NS)	Not satisfied at all

Results and Discussion

This chapter presents, analyzes, and interprets the data gathered in the study. It covers four main areas: (1) employer assessment of the competencies of Industrial Engineering alumni in terms of human capital and employability; (2) the level of employer satisfaction with alumni performance; and (3) the significant relationship between competencies and employer satisfaction. Data were collected from employers and direct supervisors within Negros Oriental using a structured questionnaire and are presented in tables with corresponding analysis and interpretation to support the study's objectives.

	Indicators	**$\bar{x}$**	**EoC**
1.	In our organization, the alumni apply mathematical and scientific principles effectively in solving work related engineering problems.	4.63	VH
2.	The alumni conduct analyses or evaluations of operational processes relevant to their assigned functions.	4.53	VH
3.	The alumni accurately analyze and interpret quantitative, production, or performance data used in our operations.	4.50	VH
4.	When proposing solutions, the alumni consider economic feasibility, safety standards, environmental impact, and sustainability requirements.	4.50	VH
5.	The alumni design, improve, or optimize systems, workflows, or processes to address organizational needs.	4.41	VH
6.	Alumni demonstrate the ability to integrate people, materials, information, equipment, and other resources in system improvement initiatives within our organization.	4.38	VH
7.	The alumni apply engineering and management principles in handling projects or operational responsibilities.	4.34	VH
8.	Alumni effectively use computer-based systems and industry-relevant software in performing their tasks.	4.21	VH
9.	The alumni utilize modern engineering tools and techniques required in our industry.	4.16	H
	Factor Average	**4.41**	**VH**

Table 1 Employer Assessment of Technical Skill Competencies of Industrial Engineering Alumni

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Table 1 presents the employer assessment of technical skill competencies of Industrial Engineering alumni, which obtained a factor average of 4.41 (Very High). This indicates that the program effectively develops core technical and analytical skills aligned with industry needs, consistent with Miah et al. (2024). The highest-rated competency is the application of mathematical and scientific principles (4.63), followed by process analysis (4.53) and both data interpretation and consideration of economic, safety, and environmental factors (4.50). Other areas such as system design (4.41), systems integration (4.38), application of engineering and management principles (4.34), and use of computer-based systems (4.21) were also rated Very High, reflecting strong analytical and decision-making capabilities.

However, the use of modern engineering tools and techniques received the lowest rating at 4.16 (High), indicating a need to strengthen competencies related to emerging technologies. This supports Sánchez-Mejorada et al. (2025), who highlighted the importance of integrating Industry 4.0 skills in engineering education, and Rikala et al. (2024), who emphasized continuous curriculum updates to keep pace with evolving industry demands.

	Indicators	**x̄**	**EoC**
1.	The alumni contribute positively to achieving team and departmental objectives.	4.38	VH
2.	The alumni manage assigned tasks or projects efficiently within team settings.	4.34	VH
3.	The alumni collaborate productively with professionals from different departments or fields.	4.31	VH
4.	When assigned leadership or coordination roles, the alumni demonstrate the ability to guide and support team members.	4.31	VH
5.	The alumni work effectively with members of multidisciplinary teams in our organization.	4.19	H
	Factor Average	**4.33**	**VH**

Table 2 Employer Assessment of Soft Skill Competencies of Industrial Engineering Alumni

Table 2 presents the employer assessment of soft skill competencies of Industrial Engineering alumni, which obtained a factor average of 4.33 (Very High). This indicates that graduates demonstrate strong teamwork, collaboration, and interpersonal skills valued in the workplace, consistent with Chikasha et al. (2021). The highest-rated indicator is the ability to contribute to team and departmental objectives (4.38), followed by managing tasks efficiently (4.34) and collaborating across departments (4.31), reflecting effective teamwork and accountability.

Leadership ability and team support (4.31) further indicate readiness for coordination roles, while working in multidisciplinary teams received the lowest rating (4.19, High), suggesting a need to strengthen adaptability in diverse environments. Overall, while graduates exhibit strong soft skills, continuous reinforcement through experiential and team-based learning is recommended to further enhance employability and align with evolving industry demands.

	Indicators	**x̄**	**EoC**
	A. ***Productivity***		
1.	The alumni demonstrate efficiency in task execution.	4.56	VH
2.	The alumni meet expected performance standards.	4.47	VH
3.	The alumni complete assigned tasks efficiently.	4.44	VH
4.	The alumni manage their workload effectively within given timeframes.	4.44	VH
5.	The alumni maintain consistent work output.	4.44	VH
	Factor Average	**4.47**	**VH**
	B. **Quality of Work**	**x̄**	**EoC**
6.	The alumni produce accurate and thorough outputs	4.63	VH
7.	The alumni maintain consistency in work performance.	4.47	VH
8.	The alumni minimize errors in assigned tasks.	4.31	VH
9.	The alumni consistently deliver high-quality work	4.28	VH
10	The alumni demonstrate attention to detail in their tasks.	4.16	H
	Factor Average	**4.37**	**VH**
	C. **Reliability**	**x̄**	**EoC**
11	The alumni adhere to deadlines and schedules.	4.63	VH
12	The alumni are dependable in fulfilling responsibilities	4.53	VH
13	The alumni comply with company policies and procedures.	4.38	VH

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14	The alumni demonstrate accountability in their work.	4.31	VH
15	The alumni can be trusted to complete tasks with minimal supervision.	4.31	VH
	Factor Average	**4.43**	**VH**
	D. **Ability to Meet Organizational Objectives**	**x̄**	**EoC**
16	The alumni contribute to achieving departmental or organizational goals.	4.59	VH
17	The alumni demonstrate initiative in supporting organizational plans and programs.	4.56	VH
18	The alumni contribute to improving operational efficiency within their department	4.47	VH
19	The alumni align their work performance with company objectives.	4.44	VH
20	The alumni meet performance targets assigned to their role or position.	4.41	VH
	Factor Average	**4.49**	**VH**

Table 3 Employer Assessment of Work Readiness and Professional Competence of Industrial Engineering Alumni

Table 3 presents the employer assessment of work readiness and professional competence of Industrial Engineering alumni, showing Very High ratings across all dimensions. Productivity obtained a factor average of 4.47, with high scores in task efficiency (4.56), meeting standards (4.47), and workload management (4.44), indicating strong output performance. Quality of work recorded 4.37, led by accuracy (4.63) and consistency (4.47), though attention to detail was slightly lower (4.16, High). Reliability also showed 4.43, with top ratings in meeting deadlines (4.63) and dependability (4.53). The ability to meet organizational objectives had the highest average at 4.49, with strong contributions to goals (4.59) and initiative (4.56).

These results indicate that graduates are efficient, quality-oriented, dependable, and aligned with organizational goals, reflecting strong work readiness. This supports Xiao et al. (2025), who emphasized productivity and efficiency as key performance indicators in engineering roles. Overall, the findings suggest that the program produces work-ready graduates, though continued use of project-based and industry-linked learning is recommended to sustain readiness in evolving workplaces.

	Indicators	**x̄**	**EoC**
1.	The alumni apply structured and systematic approaches in resolving workplace issues.	4.59	VH
2.	Before implementation, the alumni evaluate alternative solutions relevant to organizational needs.	4.53	VH
3.	The alumni consider the broader organizational implications of their decisions and recommendations.	4.50	VH
4.	The alumni accurately identify and define operational or process-related problems encountered in our organization	4.44	VH
5.	The alumni demonstrate awareness of current industry trends and challenges affecting our operations.	4.38	VH
6.	The alumni develop practical, sustainable, and implementable solutions to work-related challenges	4.13	H
	Factor Average	**4.43**	**VH**

Table 4 Employer Assessment of Problem Solving and Adaptability of Industrial Engineering Alumni

Table 4 presents the employer assessment of problem-solving and adaptability competencies of Industrial Engineering alumni, which obtained a factor average of 4.43 (Very High). This indicates that graduates demonstrate strong abilities in analyzing problems, adapting to workplace challenges, and making informed decisions. The highest-rated indicator is the use of structured and systematic approaches in resolving issues (4.59), followed by evaluating alternative solutions (4.53) and considering broader organizational implications (4.50), reflecting strong critical thinking and decision-making. Other competencies, such as identifying operational problems (4.44) and awareness of industry trends (4.38), further highlight graduates' analytical and adaptive capabilities.

However, the ability to develop practical and sustainable solutions received the lowest rating (4.13, High), suggesting a need to strengthen implementation skills. This supports Akhtar et al. (2024), who noted that graduates often require further development in translating theory into practice. Overall, while the program effectively develops analytical and adaptive competencies, continuous improvement through experiential and industry-based learning is recommended to enhance real-world problem-solving and solution execution.

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	Indicators	$\bar{x}$	EoC
1.	The alumni prepare written reports, documentation, or correspondence that meet organizational standards.	4.41	VH
2.	The alumni effectively explain technical concepts to non-technical personnel within the organization	4.38	VH
3.	The alumni communicate technical and operational information clearly within the workplace.	4.34	VH
4.	The alumni adjust their communication style according to colleagues, supervisors, clients, or stakeholders	4.34	VH
5.	The alumni deliver presentations or briefings professionally when required.	4.25	VH
	Factor Average	**4.34**	**VH**

Table 5 Employer Assessment of Communication Skill of Industrial Engineering Alumni

Table 5 presents the employer assessment of communication skills of Industrial Engineering alumni, which obtained a factor average of 4.34 (Very High). This indicates that graduates communicate effectively in both technical and non-technical contexts. The highest-rated indicator is written communication, particularly in preparing reports and documentation (4.41), followed by explaining technical concepts to non-technical personnel (4.38). Other competencies, such as clear communication of technical information (4.34) and adapting communication style (4.34), also received Very High ratings, while presentation skills were slightly lower (4.25, VH), reflecting strong overall communication ability. These findings show that graduates can effectively translate complex concepts and communicate across different audiences, supporting Qostal et al. (2024), who emphasized the importance of clear communication in engineering practice. Overall, the program effectively develops communication competencies, though continuous integration of communication training is recommended to sustain and enhance these skills.

	Indicators	$\bar{x}$	EoC
1.	Alumni use digital tools, analytics platforms, or information systems relevant to our operations.	4.63	VH
2.	Alumni demonstrate adaptability in learning and applying emerging digital technologies in the workplace.	4.47	VH
3.	Alumni apply data-driven approaches in making work-related decisions	4.44	VH
4.	Alumni utilize technology to improve productivity, efficiency, or process performance.	4.22	VH
5.	The alumni accurately interpret operational metrics, KPIs, or performance indicators used in our organization.	4.19	H
	Factor Average	**4.39**	**VH**

Table 6 Employer Assessment of Data and Digital Competence of Industrial Engineering Alumni

Table 6 presents the employer assessment of data and digital competencies of Industrial Engineering alumni, which obtained a factor average of 4.39 (Very High). This indicates that graduates are highly capable in using digital tools, analytics platforms, and information systems in modern, data-driven workplaces, consistent with Chaengpromma and Pattanapairoj (2022), who emphasized the importance of digital competence in Industry 4.0. The highest-rated indicator is the use of digital tools and systems (4.63), followed by adaptability to emerging technologies (4.47) and data-driven decision-making (4.44). The use of technology to improve productivity also received a Very High rating (4.22), reflecting strong practical application of digital skills. However, the ability to interpret operational metrics and KPIs received the lowest rating (4.19, High), suggesting a need to strengthen advanced data interpretation skills. Overall, while the program effectively develops digital and data competencies, further enhancement in analytical interpretation is recommended to strengthen decision-making and align with the growing demand for advanced data literacy in engineering practice.

	Indicators	$\bar{x}$	EoC
1.	The alumni demonstrate initiative in pursuing continuous learning relevant to their role.	4.59	VH
2.	The alumni take accountability for their assigned responsibilities and outputs.	4.56	VH
3.	The alumni show awareness of how their work performance affects organizational outcomes and stakeholders.	4.53	VH
4.	The alumni respond constructively to supervision, feedback, and performance evaluations.	4.53	VH
5.	The alumni demonstrate professionalism in their interactions and workplace behavior.	4.53	VH
	Factor Average	**4.55**	**VH**

Table 7 Employer Assessment of Professional Attitude and Behavior of Industrial Engineering Alumni

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Table 7 presents the employer assessment of professional attitude and behavior of Industrial Engineering alumni, which obtained a factor average of 4.55 (Very High). This indicates that graduates consistently demonstrate strong professionalism, accountability, and positive workplace behavior. The highest-rated indicator is initiative in continuous learning (4.59), followed by accountability (4.56) and awareness of organizational impact, responsiveness to feedback, and professionalism (all 4.53). These results reflect graduates' strong sense of responsibility, adaptability, and commitment to growth, consistent with Guevarra et al. (2025), who highlighted the importance of continuous learning and adaptability in modern work environments.

These findings suggest that graduates possess essential professional traits such as ethical behavior, self-awareness, and openness to improvement, which contribute to long-term career success. Overall, the program effectively develops professional attitudes that complement technical and soft skills, though continued reinforcement through professional development and industry engagement is recommended to sustain these competencies.

	Indicators	$\bar{x}$	EoC
1.	The alumni demonstrate fairness and ethical judgment in workplace decisions.	4.53	VH
2.	The alumni maintain confidentiality and responsible handling of organizational information.	4.44	VH
3.	Alumni comply with company policies, regulations, and professional standards.	4.44	VH
4.	The alumni adhere to workplace health, safety, and ethical guidelines.	4.41	VH
5.	The alumni demonstrate honesty and integrity in performing their job responsibilities.	4.31	VH
	Factor Average	**4.43**	**VH**

Table 8 Employer Assessment of Work Ethics of Industrial Engineering Alumni

Table 8 presents the employer assessment of work ethics of Industrial Engineering alumni, which obtained a factor average of 4.43 (Very High). This indicates that graduates consistently demonstrate strong ethical behavior, integrity, and adherence to professional standards. The highest-rated indicator is fairness and ethical judgment (4.53), followed by confidentiality and compliance with policies (4.44) and adherence to safety and ethical guidelines (4.41), with honesty and integrity also rated Very High (4.31). These results reflect graduates' ability to make principled decisions and uphold professional values, consistent with Abdullah Ahmad Al-Awamleh and Ali (2023), who emphasized the role of ethical decision-making in building organizational trust.

Additionally, strong ratings in confidentiality and compliance highlight graduates' reliability in handling organizational information and following professional standards. Overall, the program effectively develops work ethics such as fairness, integrity, and accountability, which contribute to employer satisfaction. However, continued reinforcement through ethics education and real-world application is recommended to sustain and strengthen ethical competence.

Indicators	$\bar{x}$	LoS
1.1 Technical Skills	4.47	VS
1.2. Soft Skills	4.47	VS
1.3. Work Readiness and Professional Competence	4.50	VS
1.3.1. Productivity	4.47	VS
1.3.2. Quality of Work	4.50	VS
1.3.3. Reliability	4.34	VS
1.3.4. Ability to meet Organizational Objectives	4.3	VS
2.1 Problem-Solving and Adaptability	4.47	VS
2.2 Communication Skills	4.47	VS
2.3 Data and Digital Competence	4.53	VS
2.4 Professional Attitude and Behavior	4.31	VS
2.4.1. Work Ethics	4.69	VS
3. The alumni meet the performance standards expected of industrial engineering graduates in our industry.	4.59	VS
4. I am satisfied with the alumni's contribution to improving productivity and operational performance.	4.56	VS
5. The alumni demonstrate readiness for professional engineering practice within our organizational setting.	4.63	VS
6. The competencies demonstrated by the alumni are aligned with current industry needs and challenges.	4.41	VS

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7. The alumni demonstrate the capability to perform effectively in both local and globally competitive work environments.	4.34	VS
8. I would recommend hiring graduates from the Industrial Engineering program of Foundation University.	4.69	VS
Factor Average	**4.49**	**VS**

Table 9 Level of Employer Satisfaction with the Performance of Industrial Engineering Alumni

Table 9 presents the level of employer satisfaction with the performance of Industrial Engineering alumni, which obtained a factor average of 4.49 (Very Satisfied). All indicators were rated Very Satisfied, indicating that employers perceive graduates as competent and aligned with industry expectations, supporting Cabutotan (2025) on the effectiveness of aligned curricula. The highest ratings were observed in work ethics and willingness to recommend hiring graduates (4.69), followed by readiness for professional practice (4.63) and meeting performance standards (4.59), highlighting strong professional behavior and job readiness.

Other competencies such as technical skills, soft skills, communication, and data and digital competence also received high satisfaction ratings (around 4.47–4.53), reflecting a well-balanced skill set. Slightly lower scores were noted in reliability (4.34) and professional attitude (4.31), though still Very Satisfied, suggesting minor areas for improvement. Overall, the results confirm that the program produces graduates who meet industry demands, though continuous enhancement is recommended to further strengthen professional consistency and long-term performance.

Competencies	P - value	Decision	Remark
Technical skills	.026	Reject H_0	Significant
Soft skills	.649	Fail to Reject H_0	Not Significant
Productivity	.166	Fail to Reject H_0	Not Significant
Quality of work	.228	Fail to Reject H_0	Not Significant
Reliability	< .001	Reject H_0	Significant
Ability to meet organizational objective	.153	Fail to Reject H_0	Not Significant
Problem solving and adaptability	.362	Fail to Reject H_0	Not Significant
Communication skills	< .001	Reject H_0	Significant
Data and digital competence	< .001	Reject H_0	Significant
Professional attitude and behavior	.658	Fail to Reject H_0	Not Significant
Work ethics	< .001	Reject H_0	Significant

Table 10 Relationship between Competencies of Industrial Engineering Alumni and Employer Satisfaction (n=32)

Table 10 presents the relationship between the competencies of Industrial Engineering alumni and employer satisfaction. The results show that reliability ($p < 0.01$), work ethics ($p < 0.01$), communication skills ($p < 0.001$), data and digital competence ($p < 0.001$), and technical skills ($p = 0.026$) are significantly related to employer satisfaction. This suggests that these competencies directly influence satisfaction, particularly in workplace efficiency, coordination, and task execution, as they vary more across individuals and serve as key differentiating factors in performance. This is supported by Arlet et al. (2025), who emphasized that digital capability and performance-related competencies significantly impact organizational effectiveness.

In contrast, competencies such as professional attitude and behavior ($p = 0.658$), soft skills ($p = 0.649$), problem-solving and adaptability ($p = 0.362$), quality of work ($p = 0.228$), productivity ($p = 0.166$), and ability to meet organizational objectives ($p = 0.153$) were not found to have a significant relationship with employer satisfaction. These are likely viewed as baseline expectations or fundamental competencies that graduates are consistently expected to possess upon entry into the workforce. Because these skills are uniformly demonstrated across most respondents, they show limited variation, making them less influential in differentiating levels of satisfaction. In practice, employers tend to notice and evaluate differences more in advanced or performance-driven competencies rather than in basic expectations. As noted by Ambarwati Soetiksno (2025), when competencies are consistently high across individuals, their statistical significance may diminish even if they remain essential for overall job performance.

Conclusion and Recommendations

The following inferences were derived based on the findings of the study:

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1. The Industrial Engineering program produces graduates with a Very High level of competency across all domains, particularly in professional attitude and behavior, productivity, and ability to meet organizational objectives, resulting in a Very Satisfied level of employer satisfaction.
2. Employers place the highest value on work ethics and professional readiness, as reflected in strong willingness to recommend hiring graduates, while minor gaps are observed in performance consistency and global competitiveness.
3. Only selected competencies such as communication skills, reliability, work ethics, data and digital competence, and technical skills influence employer satisfaction, while other competencies function as baseline expectations that graduates are already assumed to possess.

In light of the foregoing, the following recommendations are suggested:

1. Academic Program and Curriculum Developers: Strengthen high-impact competencies by integrating advanced data analytics, Industry 4.0 applications, and real-world technical projects, while enhancing communication skills through technical writing, presentations, and interdisciplinary collaboration.
2. Faculty and Department: Reinforce professional behavior, accountability, and ethical conduct through values formation programs, team-based activities, and continuous assessment of student performance in both academic and practical settings.
3. Institution and Industry Partners: Expand internship and industry immersion programs, and strengthen academe-industry linkages to ensure continuous curriculum alignment with evolving workplace demands.

Future Researchers: Conduct studies with larger and more diverse samples, incorporate qualitative methods for deeper insights, and perform longitudinal research to evaluate the long-term impact of curriculum enhancements.

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Competing Interests Statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article.

Data Availability Statement

Data sharing is not applicable to this article as no new data were created or analyzed in this study; all data used were obtained from previously published sources as cited in the reference list.

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Appendices

No appendices are attached to this study.

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